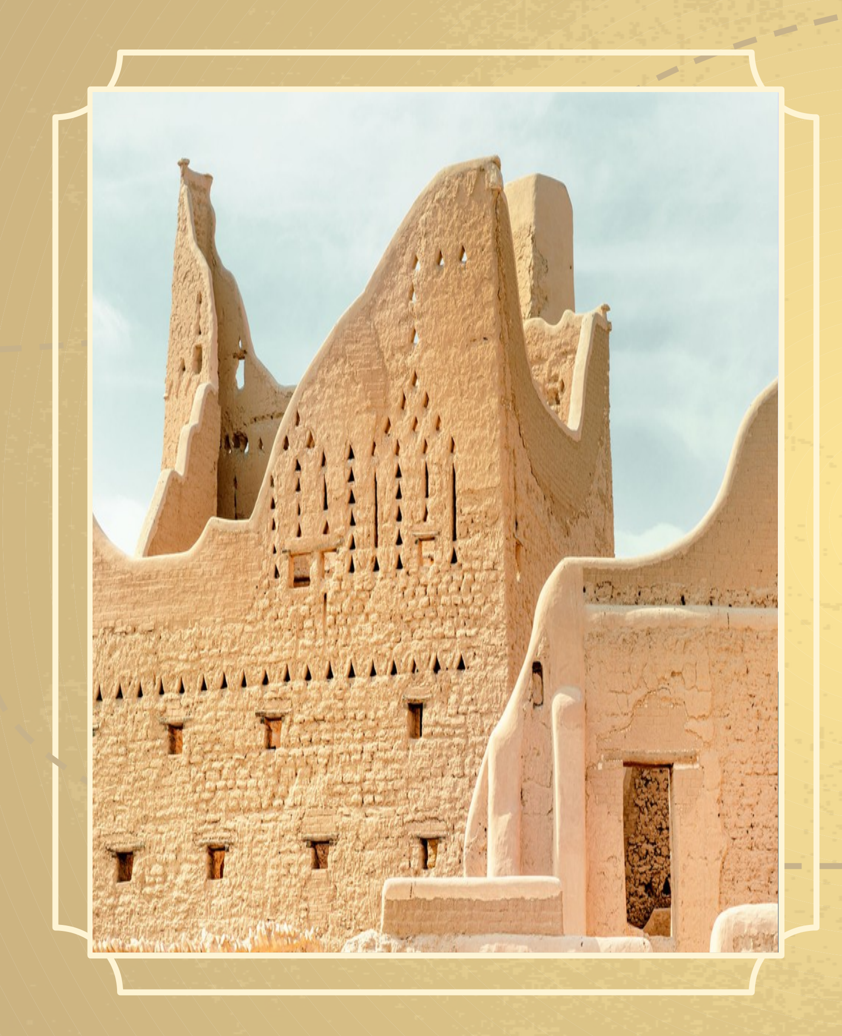


Climate Changes In NAJD And Effects

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AR 120-XD
Assignment-1

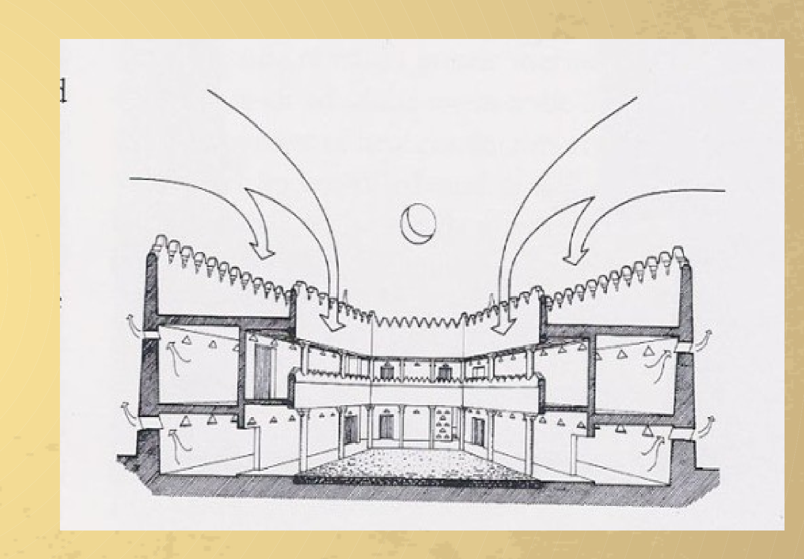
- Najd locates in the central region of Saudi Arabia.
- The weather is hot and dry and has a great temperature difference between day and night.
- The climate in Najd region have a hot desert climate with long extremely hot summers and short winters.



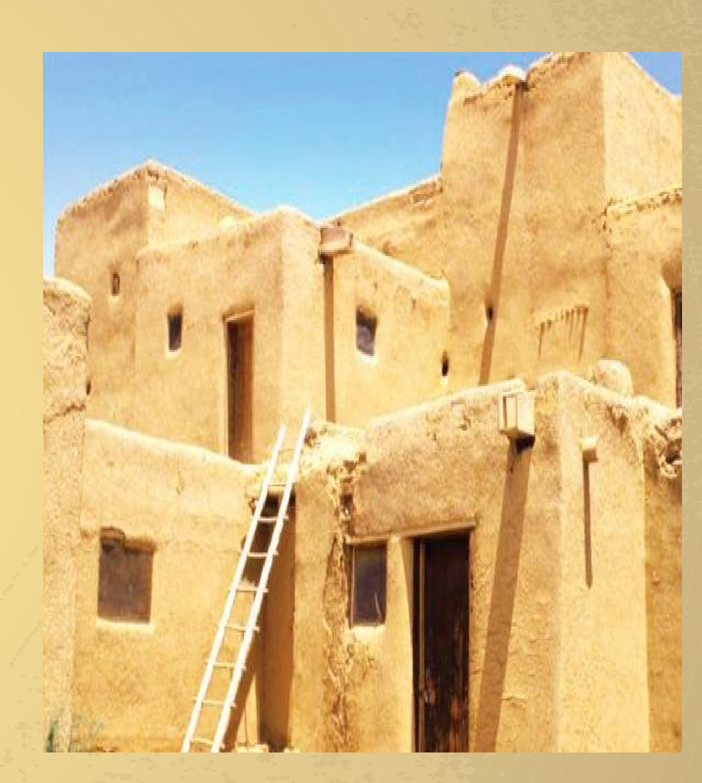
- The houses in Najd region were generally two floors, built around an open central courtyard and linked to the hallway.

- The courtyard have many benefits, such as regulate the temperature, plus providing a private space for the family to practice their private life.

- In the night, the courtyard and roof act life a cool air sink, during the day the sun heat the courtyard and warm air rise.



- The main materials to build the houses is sun baked bricks and mud.
- The materials have a direct relationship in determine the time zone of transferring heat from the outside atmosphere to the inside.
- The mud worked as plastering material used to stain the interior and exterior walls.
- The exterior walls are thick (about 80 – 100cm) so it can result in isolate high temperature and give a relief level for the people who live in these houses.



- The Mud-houses have advantages and disadvantage, one of its disadvantages is : water sensitivity, Therefor, must be protected always from rain.

- On the other hand, have a lot of advantages such as :

1. Changing the air humidity, It has the property of quickly absorbing excess air humidity and returning it to it when needed.

2. It stores heat, On winter nights, for example, It releases the heat it stored during the day.

3. Absorbs harmful substances and unpleasant smell from the air.

- The design have the lack of openings in the outer walls, and their presence in the inner courtyards.

- It also adopted the narrowing of the openings from the outside and widening them from the inside to act as a filter for the air entering the building.

- As well as to reduce the amount of light and prevent direct rays from entering.

